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AUTHORITY: 42 U.S.C. 7401-7671q.

EDITORIAL NOTE: Nomenclature changes to part 86 appear at 60 FR 34377, June 30, 1995 and 69 FR 18803, Apr. 9, 2004.

§ 86.1 Reference materials.

(a) The documents in paragraph (b) of this section have been incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, a notice of change must be published in the FEDERAL REGISTER and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030 or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. Also, the material is available for inspection at the Air Docket, EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Air Docket is 202-566-1742. Copies are also available from the sources listed below.

(b) The following paragraphs set forth the material that has been incorporated by reference in this part.

(1) *ASTM material*. Copies of these materials may be obtained from Amer-

ican Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or by calling 610-832-9585, or at <http://www.astm.org>.

(i) ASTM D 975-04c, Standard Specification for Diesel Fuel Oils, IBR approved for §§ 86.1910, 86.213-11.

(ii) ASTM D1945-91, Standard Test Method for Analysis of Natural Gas by Gas Chromatography, IBR approved for §§ 86.113-94, 86.513-94, 86.1213-94, 86.1313-94.

(iii) ASTM D2163-91, Standard Test Method for Analysis of Liquefied Petroleum (LP) Gases and Propane Concentrates by Gas Chromatography, IBR approved for §§ 86.113-94, 86.1213-94, 86.1313-94.

(iv) ASTM D2986-95a, Reapproved 1999, Standard Practice for Evaluation of Air Assay Media by the Monodisperse DOP (Diocetyl Phthalate) Smoke Test, IBR approved for §§ 86.1310-2007.

(v) ASTM D5186-91, Standard Test Method for Determination of Aromatic Content of Diesel Fuels by Supercritical Fluid Chromatography, IBR approved for §§ 86.113-07, 86.1313-91, 86.1313-94, 86.1313-98, 1313-2007.

(vi) ASTM E29-67, Reapproved 1980, Standard Recommended Practice for Indicating Which Places of Figures Are To Be Considered Significant in Specified Limiting Values, IBR approved for § 86.1105-87.

(vii) ASTM E29-90, Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications, IBR approved for §§ 86.609-84, 86.609-96, 86.609-97, 86.609-98, 86.1009-84, 86.1009-96, 86.1442, 86.1708-99, 86.1709-99, 86.1710-99, 86.1728-99.

(viii) ASTM E29-93a, Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications, IBR approved for §§ 86.098-15, 86.004-15, 86.007-11, 86.007-15, 86.1803-01, 86.1823-01, 86.1824-01, 86.1825-01, 86.1837-01.

(ix) ASTM F1471-93, Standard Test Method for Air Cleaning Performance of a High-Efficiency Particulate Air-Filter System, IBR approved § 86.1310-2007.

(2) *SAE material*. Copies of these materials may be obtained from Society

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of Automotive Engineers International, 400 Commonwealth Dr., Warrendale, PA 15096-0001, or by calling 724-776-4841, or at <http://www.sae.org>.

(i) SAE J1151, December 1991, Methane Measurement Using Gas Chromatography, 1994 SAE Handbook—SAE International Cooperative Engineering Program, Volume 1: Materials, Fuels, Emissions, and Noise; Section 13 and page 170 (13.170), IBR approved for §§ 86.111–94; 86.1311–94.

(ii) SAE J1349, June 1990, Engine Power Test Code—Spark Ignition and Compression Ignition, IBR approved for §§ 86.094–8, 86.096–8.

(iii) SAE J1850, July 1995, Class B Data Communication Network Interface, IBR approved for §§ 86.099–17, 86.1806–01.

(iv) SAE J1850, Revised May 2001, Class B Data Communication Network Interface, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(v) SAE J1877, July 1994, Recommended Practice for Bar-Coded Vehicle Identification Number Label, IBR approved for §§ 86.095–35, 86.1806–01.

(vi) SAE J1892, October 1993, Recommended Practice for Bar-Coded Vehicle Emission Configuration Label, IBR approved for §§ 86.095–35, 86.1806–01.

(vii) SAE J1930, Revised May 1998, Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms, IBR approved for §§ 86.096–38, 86.004–38, 86.007–38, 86.010–38, 86.1808–01, 86.1808–07.

(viii) SAE J1930, Revised April 2002, Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms—Equivalent to ISO/TR 15031-2: April 30, 2002, IBR approved for §§ 86.005–17, 86.007–17, 86.010–18, 86.1806–04, 86.1806–05.

(ix) SAE J1937, November 1989, Engine Testing with Low Temperature Charge Air Cooler Systems in a Dynamometer Test Cell, IBR approved for §§ 86.1330–84, 86.1330–90.

(x) SAE J1939, Revised October 2007, Recommended Practice for a Serial Control and Communications Vehicle Network, IBR approved for §§ 86.010–18.

(xi) SAE J1939-11, December 1994, Physical Layer—250K bits/s, Shielded Twisted Pair, IBR approved for §§ 86.005–17, 86.1806–05.

(xii) SAE J1939-11, Revised October 1999, Physical Layer—250K bits/s, Shielded Twisted Pair, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xiii) SAE J1939-13, July 1999, Off-Board Diagnostic Connector, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xiv) SAE J1939-13, Revised March 2004, Off-Board Diagnostic Connector, IBR approved for § 86.010–18.

(xv) SAE J1939-21, July 1994, Data Link Layer, IBR approved for §§ 86.005–17, 86.1806–05.

(xvi) SAE J1939-21, Revised April 2001, Data Link Layer, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xvii) SAE J1939-31, Revised December 1997, Network Layer, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xviii) SAE J1939-71, May 1996, Vehicle Application Layer, IBR approved for §§ 86.005–17, 86.1806–05.

(xix) SAE J1939-71, Revised August 2002, Vehicle Application Layer—J1939-71 (through 1999), IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xx) SAE J1939-71, Revised January 2008, Vehicle Application Layer (Through February 2007), IBR approved for § 86.010–38.

(xxi) SAE J1939-73, February 1996, Application Layer—Diagnostics, IBR approved for §§ 86.005–17, 86.1806–05.

(xxii) SAE J1939-73, Revised June 2001, Application Layer—Diagnostics, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xxiii) SAE J1939-73, Revised September 2006, Application Layer—Diagnostics, IBR approved for §§ 86.010–18, 86.010–38.

(xxiv) SAE J1939-81, July 1997, Recommended Practice for Serial Control and Communications Vehicle Network Part 81—Network Management, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xxv) SAE J1939-81, Revised May 2003, Network Management, IBR approved for § 86.010–38.

(xxvi) SAE J1962, January 1995, Diagnostic Connector, IBR approved for §§ 86.099–17, 86.1806–01.

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(xxvii) SAE J1962, Revised April 2002, Diagnostic Connector Equivalent to ISO/DIS 15031-3; December 14, 2001, IBR approved for §§ 86.005-17, 86.007-17, 86.010-18, 86.1806-04, 86.1806-05.

(xxviii) SAE J1978, Revised April 2002, OBD II Scan Tool—Equivalent to ISO/DIS 15031-4; December 14, 2001, IBR approved for §§ 86.005-17, 86.007-17, 86.010-18, 86.1806-04, 86.1806-05.

(xxix) SAE J1979, July 1996, E/E Diagnostic Test Modes, IBR approved for §§ 86.099-17, 86.1806-01.

(xxx) SAE J1979, Revised September 1997, E/E Diagnostic Test Modes, IBR approved for §§ 86.096-38, 86.004-38, 86.007-38, 86.010-38, 86.1808-01, 86.1808-07.

(xxxi) SAE J1979, Revised April 2002, E/E Diagnostic Test Modes—Equivalent to ISO/DIS 15031-5; April 30, 2002, IBR approved for §§ 86.099-17, 86.005-17, 86.007-17, 86.1806-01, 86.1806-04, 86.1806-05.

(xxxii) SAE J1979, Revised May 2007, (R) E/E Diagnostic Test Modes, IBR approved for § 86.010-18, 86.010-38.

(xxxiii) SAE J2012, July 1996, Recommended Practice for Diagnostic Trouble Code Definitions, IBR approved for §§ 86.099-17, 86.1806-01.

(xxxiv) SAE J2012, Revised April 2002, (R) Diagnostic Trouble Code Definitions Equivalent to ISO/DIS 15031-6; April 30, 2002, IBR approved for §§ 86.005-17, 86.007-17, 86.010-18, 86.1806-04, 86.1806-05.

(xxxv) SAE J2284-3, May 2001, High Speed CAN (HSC) for Vehicle Applications at 500 KBPS, IBR approved for §§ 86.096-38, 86.004-38, 86.007-38, 86.010-38, 86.1808-01, 86.1808-07.

(xxxvi) SAE J2403, Revised August 2007, Medium/Heavy-Duty E/E Systems Diagnosis Nomenclature—Truck and Bus, IBR approved for §§ 86.007-17, 86.010-18, 86.010-38, 86.1806-05.

(xxxvii) SAE J2534, February 2002, Recommended Practice for Pass-Thru Vehicle Programming, IBR approved for §§ 86.096-38, 86.004-38, 86.007-38, 86.010-38, 86.1808-01, 86.1808-07.

(xxxviii) SAE J2534-1, Revised December 2004, (R) Recommended Practice for Pass-Thru Vehicle Programming, IBR approved for § 86.010-38.

(3) *ANSI material.* Copies of these materials may be obtained from the American National Standards Institute, 25 W 43rd Street, 4th Floor, New

York, NY 10036, or by calling 212-642-4900, or at <http://www.ansi.org>.

(i) ANSI/AGA NGV1-1994, Standard for Compressed Natural Gas Vehicle (NGV) Fueling Connection Devices, IBR approved for §§ 86.001-9, 86.004-9, 86.098-8, 86.099-8, 86.099-9, 86.1810-01.

(ii) [Reserved]

(4) *California regulatory requirements.* Copies of these materials may be obtained from U.S. EPA, see paragraph (a) of this section, or from the California Air Resources Board by calling 916-322-2884, or at <http://www.arb.ca.gov>.

(i) California Regulatory Requirements Applicable to the “LEV II” Program, including:

(A) California Exhaust Emission Standards and Test Procedures for 2003 and Subsequent Model Zero-Emission Vehicles and 2001 and Subsequent Model Hybrid Electric Vehicles, in the Passenger Car, Light-duty Truck and Medium-duty Vehicle Classes, August 5, 1999, IBR approved for §§ 86.1806-01, 86.1811-04, 86.1844-01.

(B) California Non-Methane Organic Gas Test Procedures, August 5, 1999, IBR approved for §§ 86.1803-01, 86.1810-01, 86.1811-04.

(ii) California Regulatory Requirements Applicable to the National Low Emission Vehicle Program, October 1996, IBR approved for §§ 86.113-04, 86.612-97, 86.1012-97, 86.1702-99, 86.1708-99, 86.1709-99, 86.1717-99, 86.1735-99, 86.1771-99, 86.1775-99, 86.1776-99, 86.1777-99, Appendix XVI, Appendix XVII.

(iii) California Regulatory Requirements known as On-board Diagnostics II (OBD-II), Approved on April 21, 2003, Title 13, California Code Regulations, Section 1968.2, Malfunction and Diagnostic System Requirements for 2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines (OBD-II), IBR approved for § 86.1806-05.

(iv) California Regulatory Requirements known as On-board Diagnostics II (OBD-II), Approved on November 9, 2007, Title 13, California Code Regulations, Section 1968.2, Malfunction and Diagnostic System Requirements for 2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines (OBD-II), IBR approved for §§ 86.007-17, 86.1806-05.

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(5) *ISO material.* Copies of these materials may be obtained from the International Organization for Standardization, Case Postale 56, CH-1211 Geneva 20, Switzerland, or by calling 41-22-749-01-11, or at <http://www.iso.org>.

(i) ISO 9141-2, February 1, 1994, Road vehicles—Diagnostic systems—Part 2: CARB requirements for interchange of digital information, IBR approved for §§ 86.099-17, 86.005-17, 86.007-17, 86.1806-01, 86.1806-04, 86.1806-05.

(ii) ISO 14230-4:2000(E), June 1, 2000, Road vehicles—Diagnostic systems—KWP 2000 requirements for Emission-related systems, IBR approved for §§ 86.099-17, 86.005-17, 86.007-17, 86.1806-01, 86.1806-04, 86.1806-05.

(iii) ISO 15765-4.3:2001, December 14, 2001, Road Vehicles—Diagnostics on Controller Area Networks (CAN)—Part 4: Requirements for emissions-related systems, IBR approved for §§ 86.005-17, 86.007-17, 86.1806-04, 86.1806-05.

(iv) ISO 15765-4:2005(E), January 15, 2005, Road Vehicles—Diagnostics on Controller Area Networks (CAN)—Part 4: Requirements for emissions-related systems, IBR approved for §§ 86.007-17, 86.010-18, 86.1806-05.

(6) *NIST material.* NIST publications are sold by the Government Printing Office (GPO) and by the National Technical Information Service (NTIS). To purchase a NIST publication you must have the order number. Order numbers are available from the NIST Public Inquiries Unit at (301) 975-NIST. Mailing address: NIST Public Inquiries, NIST, 100 Bureau Drive, Stop 3460, Gaithersburg, Md., 20899-3460. If you have a GPO stock number, you can purchase printed copies of NIST publications from GPO. Orders should be sent to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325. For more information, or to place an order, call (202) 512-1800, fax: (202) 512-2250. More information can also be found at <http://www.nist.gov>.

(i) NIST Special Publication 811, 1995 Edition, Guide for the Use of the International System of Units (SI), IBR approved for § 86.1901.

(ii) [Reserved]

(7) *Truck and Maintenance Council material.* Copies of these materials may be obtained from the Truck and Maintenance Council, 950 North Glebe Road,

Suite 210, Arlington, VA 22203-4181, or by calling 703-838-1754.

(i) TMC RP 1210B, Revised June 2007, WINDOWS™ COMMUNICATION API, IBR approved for § 86.010-38.

(ii) [Reserved]

[74 FR 8354, Feb. 24, 2009]

EFFECTIVE DATE NOTE: At 75 FR 25677, May 7, 2010, § 86.1 was amended by adding paragraphs (b)(2)(xxxix) and (x)(1), effective July 6, 2010. For the convenience of the user, the added text is set forth as follows:

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(b) * * *

(2) * * *

(xxxix) SAE J2064, Revised December 2005, R134a Refrigerant Automotive Air-Conditioned Hose, IBR approved for § 86.166-12.

(xl) SAE J2765, October, 2008, Procedure for Measuring System COP [Coefficient of Performance] of a Mobile Air Conditioning System on a Test Bench, IBR approved for § 86.1866-12.

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Subpart A—General Provisions for Emission Regulations for 1977 and Later Model Year New Light-Duty Vehicles, Light-Duty Trucks and Heavy-Duty Engines, and for 1985 and Later Model Year New Gasoline Fueled, Natural Gas-Fueled, Liquefied Petroleum Gas-Fueled and Methanol-Fueled Heavy-Duty Vehicles

SOURCE: 42 FR 32907, June 28, 1977, unless otherwise noted.

§ 86.000-2 Definitions.

The definitions of § 86.098-2 continue to apply to 1998 and later model year vehicles. The definitions listed in this section apply beginning with the 2000 model year.

AC1 means a test procedure as described in § 86.162-00 which simulates testing with air conditioning operating in an environmental test cell by adding the air conditioning compressor load to the normal dynamometer forces.

AC2 means a test procedure as described in § 86.162-00 which simulates